

WE CLAIM:

1. A wireless data communications device, arranged to be installed in a light fixture having a lamp socket for receiving a lamp, comprising:

a housing containing a wireless data communications radio arranged to communicate with mobile units and other fixed wireless communications devices forming a data communications network;

a connector on said housing arranged to engage said lamp socket on said light fixture;

a socket on said housing arranged to receive a connector of a lamp and connected to receive power from said connector on said housing; and

a power supply in said housing arranged to receive power from said connector on said housing and provide power to said wireless data communications radio.

2. A wireless data communications device as specified in claim 1 arranged to be installed in a light fixture having a socket for receiving an incandescent bulb, wherein said housing connector is arranged to screw into said socket, and wherein said socket on said housing is arranged to receive an incandescent bulb.

3. A wireless data communications device as specified in claim 1 wherein said light fixture is a florescent lamp, and wherein said housing includes a first connector arranged to engage a socket on said light fixture arranged to receive a florescent tube having a first length and the housing socket arranged to engage a florescent tube end, said housing socket being spaced from an opposed socket on said fixture when said housing is installed on said fixture, by a spacing arranged to accommodate a florescent tube having a shorter length than said first length.

4. A wireless communications device as specified in claim 1 wherein said power supply further includes a rechargeable battery and a recharging circuit, and wherein said power supply is arranged to recharge said battery when said connector receives power from said fixture and said wireless data communications radio receivers power from said battery when said connector does not receive power from said fixture.

5. A wireless communications device as specified in claim 4 wherein said wireless communications radio is arranged to act as a master device and communicate with mobile units and arranged to act as a slave device and communicate with at least one other fixed location wireless communications device.

6. A wireless communications device as specified in claim 5 wherein said radio communicates with mobile units using IEEE Standard 802.11 protocol.

7. A wireless communications device as specified in claim 6 wherein said radio communicates with said at least one other fixed wireless communications device using IEEE standard 802.11 protocol.

8. A wireless communications device as specified in claim 5 wherein said radio communicates with mobile units using Bluetooth protocol.

9. A wireless communications device as specified in claim 8 wherein said radio communicates with said at least one other wireless communications device using IEEE standard 802.11 protocol.

10. A wireless communications device as specified in claim 8 wherein said radio communicates with said at least one other wireless communications device using Bluetooth scatternet protocol.

11. A wireless communications device as specified in claim 1 further comprising at least one arrangement for communicating over an AC power network through said connector on said housing.

12. A wireless data communications device, arranged to be installed in a light fixture having a lamp socket, comprising:

a housing containing a wireless data communications radio arranged to communicate with mobile units and other fixed wireless communications devices forming a data communications network;

a connector on said housing arranged to engage said lamp socket on said light fixture; and

a power supply in said housing arranged to receive power from said connector on said housing and provide power to said wireless data communications radio.

13. A wireless communications device as specified in claim 12 wherein said power supply further includes a rechargeable battery and a recharging circuit, and wherein said power supply is arranged to recharge said battery when said connector receives power from said fixture and power said wireless data communications radio using power from said battery when said connector does not receive power from said fixture.

14. A wireless communications device as specified in claim 12 wherein said wireless communications radio is arranged to act as a master device and communicate with mobile units and arranged to act as a slave device and communicate with at least one other fixed location wireless communications device.

15. A wireless communications device as specified in claim 14 wherein said radio communicates with mobile units using IEEE standard 802.11 protocol.

16. A wireless communications device as specified in claim 15 wherein said radio communicates with said at least one other wireless communications device using IEEE standard 802.11 protocol.

17. A wireless communications device as specified in claim 15 wherein said device includes two radios, a first radio acting as an 802.11 mobile unit communicating with said other fixed location wireless communications device and a second radio acting as an 802.11 access point and communicating with mobile units.

18. A wireless communications device as specified in claim 14 wherein said radio communicates with mobile units using Bluetooth protocol.

19. A wireless communications device as specified in claim 18 wherein said radio communicates with said at least one other fixed location wireless communications device using IEEE standard 802.11 protocol.

20. A wireless communications device as specified in claim 18 wherein said radio communicates with said at least one other wireless communications device using Bluetooth scatternet protocol.

21. A wireless communications device as specified in claim 12 further comprising at least one arrangement for communicating over an AC power network through said connector on said housing.

22. A wireless data communications device, arranged to be installed in a florescent light fixture having first and second spaced lamp sockets arranged to receive a florescent tube, comprising:

a housing containing a wireless data communications radio arranged to communicate with mobile units and other fixed wireless communications devices forming a data communications network;

first and second spaced connectors on said housing arranged to engage said lamp sockets on said light fixture; and

a power supply in said housing arranged to receive power from said connectors on said housing and provide power to said wireless data communications radio, said power supply further including a circuit for emulating the impedance behavior of a florescent tube.